

IN THE CLAIMS:

This Listing of Claims replaces all prior Listings and versions of claims in the above-identified application.

Listing of Claims:

1. (Currently Amended) A vaccine adjuvant that increases T lymphocyte memory, comprising:
 - a) an agent that increases interleukin-15 (IL-15) activity; and,
 - b) an agent that decreases interleukin-2 (IL-2) activity.
2. (Original) The vaccine adjuvant of Claim 1, wherein said agent that increases IL-15 activity is an agent that increases IL-15 receptor activity without enhancing IL-2 receptor activity.
3. (Original) The vaccine adjuvant of Claim 2, wherein said agent that increases IL-15 activity is IL-15 or a homologue of IL-15 that has IL-15 biological activity.
4. (Withdrawn) The vaccine adjuvant of Claim 2, wherein said agent that increases IL-15 activity is an antibody that selectively binds to and activates an IL-15 receptor and does not substantially bind to and activate an IL-2 receptor.
5. (Withdrawn) The vaccine adjuvant of Claim 2, wherein said agent selectively binds to IL-15R α .
6. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that increases IL-15 activity is an agent that binds to and increases the half-life of IL-15.
7. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that increases IL-15 activity is a recombinant nucleic acid molecule comprising a nucleic acid sequence encoding IL-15 or a homologue of IL-15 that has IL-15 biological activity.
8. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that increases IL-15 activity is an agent that binds to a regulatory region of a gene encoding IL-15 and increases transcription of said gene encoding IL-15.
9. (Original) The vaccine adjuvant of Claim 1, wherein said agent that decreases IL-2 activity is an antibody that selectively binds to IL-2 and blocks IL-2, eliminates IL-2 or prevents the interaction of IL-2 with its receptor.

10. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that decreases IL-2 activity is a compound that binds to and degrades IL-2.

11. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that decreases IL-2 activity is a compound that blocks or decreases the activity of IL-2 receptors without blocking or decreasing the activity of IL-15 receptors.

12. (Withdrawn) The vaccine adjuvant of Claim 11, wherein said agent selectively binds to IL-2R α .

13. (Withdrawn) The vaccine adjuvant of Claim 1, wherein said agent that decreases IL-2 activity is an antisense nucleic acid molecule that hybridizes to a gene encoding IL-2 under high stringency conditions and inhibits the expression of IL-2.

14. (Original) The vaccine adjuvant of Claim 1, further comprising a delivery vehicle that targets memory T lymphocytes.

15. (Original) The vaccine adjuvant of Claim 14, wherein said delivery vehicle comprises an antibody that selectively binds to a cell surface molecule expressed by memory T lymphocytes.

16-18. (Cancelled)

19. (Currently Amended) A method to increase T lymphocyte memory comprising administering to an animal the vaccine adjuvant of Claim 1 ~~a composition comprising an agent that increases IL-15 activity and an agent that decreases IL-2 activity.~~

20. (Currently Amended) The method of Claim 19, wherein said step of administering ~~increases~~ decreases the activity or survival of CD25⁺ T cells in said animal.

21. (Withdrawn) The method of Claim 19, wherein said composition is administered to a site of a vaccination in said animal.

22. (Cancelled)

23. (Withdrawn) The method of Claim 19, wherein said agent that increases IL-15 activity is IL-15 or a homologue of IL-15 that has IL-15 biological activity.

24. (Withdrawn) The method of Claim 19, wherein said agent that increases IL-15 activity is an antibody that selectively binds to and activates an IL-15 receptor and does not substantially bind to and activate an IL-2 receptor.

25. (Withdrawn) The method of Claim 24, wherein said agent selectively binds to IL-15R α .

26. (Withdrawn) The method of Claim 19, wherein said agent that increases IL-15 activity is an agent that binds to and increases the half-life of IL-15.

27. (Withdrawn) The method of Claim 19, wherein said agent that increases IL-15 activity is a recombinant nucleic acid molecule comprising a nucleic acid sequence encoding IL-15 or a homologue of IL-15 that has IL-15 biological activity.

28. (Withdrawn) The method of Claim 19, wherein said agent that increases IL-15 activity is an agent that binds to a regulatory region of a gene encoding IL-15 and increases transcription of said gene encoding IL-15.

29. (Withdrawn) The method of Claim 19, wherein said agent that decreases IL-2 activity is an antibody that selectively binds to IL-2 and blocks IL-2, eliminates IL-2 or prevents the interaction of IL-2 with its receptor.

30. (Withdrawn) The method of Claim 19, wherein said agent that decreases IL-2 activity is a compound that binds to and degrades IL-2.

31. (Withdrawn) The method of Claim 19, wherein said agent that decreases IL-2 activity is a compound that blocks or decreases the activity of IL-2 receptors without blocking or decreasing the activity of IL-15 receptors.

32. (Withdrawn) The method of Claim 31, wherein said agent selectively binds to IL-2R α .

33. (Withdrawn) The method of Claim 19, wherein said agent that decreases IL-2 activity is an antisense nucleic acid molecule that hybridizes to a gene encoding IL-2 under high stringency conditions and inhibits the expression of IL-2.

34-51. (Cancelled)

52. (New) A vaccine adjuvant that increases T lymphocyte memory, comprising:

- a) IL-15 or a homologue of IL-15 that has IL-15 biological activity; and,
- b) an agent that binds to IL-2 and blocks IL-2, eliminates IL-2 or prevents the interaction of IL-2 with its receptor.

53. (New) A method to increase T lymphocyte memory comprising administering to an animal the vaccine adjuvant of Claim 52.